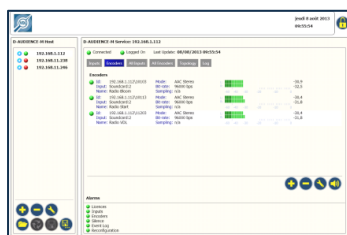


# D-AUDIENCE-M



## DAB+/DAB Audio Encoder



**D-AUDIENCE-M is a Digital Radio Audio Encoder that uses the high-efficiency MPEG-4 coding standard HE-AAC-V2 (ETSI TS 102 563) for DAB+ and the MPEG Layer II Audio Encoder (ISO 14496-3) for DAB.**

As part of an integrated head-end system, D-AUDIENCE-M Encoders are remotely managed via IP from a VDL D-VAUDAX Multiplexer.

### Encoder Inputs

D-AUDIENCE-M can be specified with a choice of audio input configurations:

- Up to 4-channels analogue (balanced) and up to 4-channels digital (AES/EBU)
- Up to 16-channels digital (AES/EBU)
- Up to 16-channels Livewire (Audio over Ethernet)

### Encoder Outputs

Audio output to a VDL D-VAUDAX Multiplexer is via IP (LAN or WAN). Output protocol options are UDP/IP with packet re-send capability error protection, or EDI output with a choice of forward error-correction or packet re-send.

Each audio input can be configured with multiple outputs at different bit-rates and coding formats (DAB+ and DAB) for use on separate ensembles.

### Programme associated Data (PAD)

D-AUDIENCE-M includes a PAD (Programme Associated Data) Inserter with FTP input. Alternatively, PAD can be received via an IP connection from a VDL D-VAUDAX Multiplexer, or VDL PAD-Server.

### Monitoring

In addition to providing status via the VDL D-VAUDAX Multiplexer, D-AUDIENCE-M can be monitored via SNMP.

### Connectors

Audio encoder connector options include flying leads with XLR connectors or rack-mount connector panels with XLR connectors.

## Highlights

- Digital outputs encoded as HE-AAC-V2 (DAB+) or MPEG Layer II (DAB)
- AES/EBU, analogue or Livewire input
- Bit-rates up to 192kbits/s (DAB+) and 384kbits/s (DAB)
- Mono, Mono + SBR, Stereo, Stereo + SBR, Stereo + SBR + PS coding modes
- Multiple outputs for each audio input at different coding formats and bit-rates
- UDP/IP output - unicast, or multicast with packet resend
- EDI output - unicast, or multicast with choice of packet resend and FEC
- Integral PAD-inserter with input via FTP (or UDP/IP from VDL D-VAUDAX, PAD-Server)
- 2U rack-mount chassis
- Remotely configured from D-VAUDAX Multiplexer via IP
- Redundancy control from D-VAUDAX Multiplexer via IP
- Redundant power supplies
- SNMP



## Specifications

### Coding Algorithm

- DAB+: MPEG-4 HE-AAC V2  
ETSI TS 102 563
- DAB: MPEG 1/2 Layer II  
ETSI EN 300 401

### Coding Modes

- DAB+: Mono, Mono+SBR<sup>1</sup>  
Stereo, Stereo+SBR<sup>1</sup>  
Stereo+SBR+PS<sup>2</sup>
- DAB: Mono, Stereo, Joint Stereo

### Sampling Frequencies

- DAB+: 32kHz, 48kHz without SBR<sup>1</sup>  
16kHz, 24kHz with SBR<sup>1</sup>
- DAB: 48kHz MPEG 1 Layer II  
24 kHz MPEG 2 Layer II

### Bit Rates

- DAB+: 16kbits/s - 192kbits/s in steps of 8kbits/s
- DAB: 32kbits/s - 384kbits/s

### Audio Input

Maximum input and output levels:  
+19dbu (0dbfs at high-gain)

Analogue:  
Balanced, with 3 level settings  
0dBu -10dBu and +3dBu

Digital:  
AES/EBU

Analogue and AES/EBU Input Connectors:  
XLR connectors on breakout cables or  
rack-mounting breakout box.

IP Audio (Livewire):  
RJ45 (Ethernet port)

### Encoder Configuration Options

Analogue/Digital Encoder:  
up to 4-channels analogue and  
4-channels digital.

Digital-only Encoder (AES/EBU):  
up to 16-channels

IP Audio Encoder (Livewire):  
up to 16-channels

### Encoder Output

DAB/DAB+ audio with PAD via IP network  
Choice of UDP/IP with packet re-send or EDI with  
packet re-send or forward error-correction.  
Compatible with VDL D-VAUDAX Multiplexer UDP/IP  
and EDI inputs.

### PAD Input

Integral PAD-inserter with FTP input, or IP connection  
from VDL D-VAUDAX Multiplexer or VDL PAD-Server.

### Control Interface

Local user interface for initial set-up  
Control, service configuration and redundancy  
management from D-VAUDAX Multiplexer via LAN or  
WAN (VPN).

### Encoder Management

Configuration and monitoring software.  
Remotely managed by VDL D-VAUDAX Multiplexer  
via IP.

### Alarm Outputs

SNMP

### IP Network Interface

Two 1000BASE-T Ethernet ports

### Physical

Chassis  
2U rack-mount  
Dimensions  
483mm (w) x 88mm (h) x 526mm (d)  
Weight:  
18kg weight (typical)

### Operating System

Windows 7

### Disk Drives

Redundant hot-swap HDD (RAID 1)

### Power Supply

Redundant Power Supply with two connectors  
90V - 264V AC, 47 - 63Hz, 320W  
Power Consumption 100 W (typical)

### Environment

Operating Temperature  
+5° to +50° C  
Humidity  
0 to 95% non-condensing

*Specifications are subject to change without notice*  
January 2015

- <sup>1</sup> SBR = Spectral Band Replication
- <sup>2</sup> PS = Parametric Stereo

